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# Telephone and Face-to-Face Interviewing: A Comparison

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**Abstract**

This paper presents the results of a special telephone survey conducted in Edmonton as a part of the All Alberta Study of 1988. The survey gave an opportunity to compare the face–to–face interview mode with the method of interviewing by telephone. For most of the questions, the distribution of the responses were similar in both types of surveys.

# Telephone and Face–to–Face Interviewing: A Comparison

## Introduction

The most preferred method of data collection in surveys conducted by social scientists is face–to–face interviews. There has been a tendency to label all telephone surveys as basically unreliable. This paper presents the results of a special telephone survey conducted in Edmonton as a part of the All Alberta Study of 1988. The survey gave an opportunity to compare face–to–face mode of interviewing with telephone survey method.

There have been several studies comparing these two methods of interviewing. There is no consensus among the researchers whether a telephone interview is as good as a personal interview. Sudman and Bradburn (1974) analysed a large number of questions and found no consistent differences. Groves and Kahn (1979) report that there is a tendency to truncate answers in telephone interviews. There is some suggestion that a telephone survey may not be as valid as face–to–face interviews for sensitive topics which reflect negatively on the respondents (Hochstim 1967). However, Coombs and Freedman (1964) report that they were successful in obtaining data on sensitive items – health, family planning practice and related topics.

## The survey

The data analysed in this paper were collected in the All Alberta study conducted by the Population Research Laboratory of the University of Alberta. The All Alberta Study combines two methods of interviewing. Face–to–face interviewing is used for the sample of respondents in the city of Edmonton, and the telephone method is used for the rest of Alberta. When this combination of two modes of interviews is combined for a single survey, the natural question that arises is whether there is any bias introduced by the mode of interview. One may wonder whether the difference, if any, between Edmonton and the rest of the province is genuine, or whether it is an artifact of the method of data collection. In order to alleviate these fears and to test the two methods, an independent sample of respondents in 116 households in Edmonton was interviewed over the telephone. There were 464 interviews completed by the method of personal interviews. These two independent samples are compared in this paper to see whether there is any systematic bias discernable in the telephone interviewing. There were several complex questions and some sensitive questions. At the same time, there were many simple and straightforward questions in the survey.

Table 1
Comparison of background variables of the respondents in the Telephone and face-to-face surveys.

| | Face-to-face ( % ) | Telephone ( % ) |
|---|---|---|
| **Age** | | |
| <25 | 15.3 | 14.9 |
| 25-34 | 35.2 | 37.7 |
| 35-44 | 18.8 | 17.5 |
| 45-54 | 11.9 | 11.4 |
| 55+ | 18.8 | 18.5 |
| Total | 100.0 | 100.0 |
| **Sex** | | |
| Male | 49.1 | 48.3 |
| Female | 50.9 | 51.7 |
| Total | 100.0 | 100.0 |
| **Marital Status** | | |
| Single | 27.8 | 25.2 |
| Married | 46.4 | 48.7 |
| Common law | 7.5 | 8.7 |
| Divorced/Widowed/ Separated | 18.3 | 17.4 |
| Total | 100.0 | 100.0 |
| **Years of Schooling** | | |
| <7 years | 2.8 | 1.8 |
| 7-11 | 21.1 | 16.7 |
| 12 | 19.0 | 26.2 |
| 13+ | 57.1 | 55.3 |
| Total | 100.0 | 100.0 |
| **Household Income** | | |
| <6000 | 4.2 | 6.8 |
| 6000-13999 | 14.8 | 15.9 |
| 14000-23999 | 13.1 | 8.0 |
| 24000-35999 | 25.1 | 21.6 |
| 36000 + | 42.7 | 47.7 |
| Total | 100.0 | 100.0 |
| **Sample size** | 464 | 116 |

**Analysis**

The first step is to compare the set of respondents in their demographic and economic background. Table 1 shows the distribution of respondents by a number of characteristics. The percentage distributions are very similar. The two distributions for each variable were compared using a chi-square test. None of the variables showed any significant difference. This means that any difference between the two types of surveys cannot be attributed to the compositional difference of the two samples.

The questions are grouped into four categories for the purpose of this analysis: (a) questions with responses on a seven-point scale; (b) those with dichotomous responses; (c) those with multiple categories of responses; and (d) those with responses on an interval scale. The differences in the first three categories of questions were tested by chi-square and the fourth type of questions were tested by t-test. The results are shown in Table 2.

There were 32 questions with responses given on a seven-point scale. In these questions, the respondents were asked to rate their disagreement or agreement with a number of statements on a scale of 1 to 7. Of these, six questions had statistically significant differences, as measured by a chi-square test between the types of surveys. These questions are listed below:

(i) Punishments for impaired drivers are becoming too severe.

(ii) Legislation should be passed making it illegal to discriminate on the basis of sexual orientation; that is, heterosexuality, homosexuality or bisexuality.

(iii) The University of Alberta has raised entrance requirement for high school graduates from 65% to 70%. Do you agree with the decision to raise entrance requirements in order to limit the number of students attending university?

(iv) It would be better for a pre-school child's emotional development if the mother did not work outside home.

(v) It is important to allow women to become ordained ministers/priests.

(vi) How much do you agree or disagree that the recent "Free trade" agreement between Canada and the United States will benefit most Canadians?

Even though there may be statistically significant differences in the proportions agreeing or disagreeing, the patterns of responses are very similiar. This may be illustrated by looking at the responses to the question on punishment of impaired drivers (Table 3 and Chart 1). In the telephone mode of interview, the number of people who agree strongly with the statement is greater than that in the face-to-face interview. But the broader picture remains the same in both; most of the people do not think that punishment for impaired drivers is very severe. This

Table 2
Results of the tests of significance for differences between Telephone and face-to-face interviews

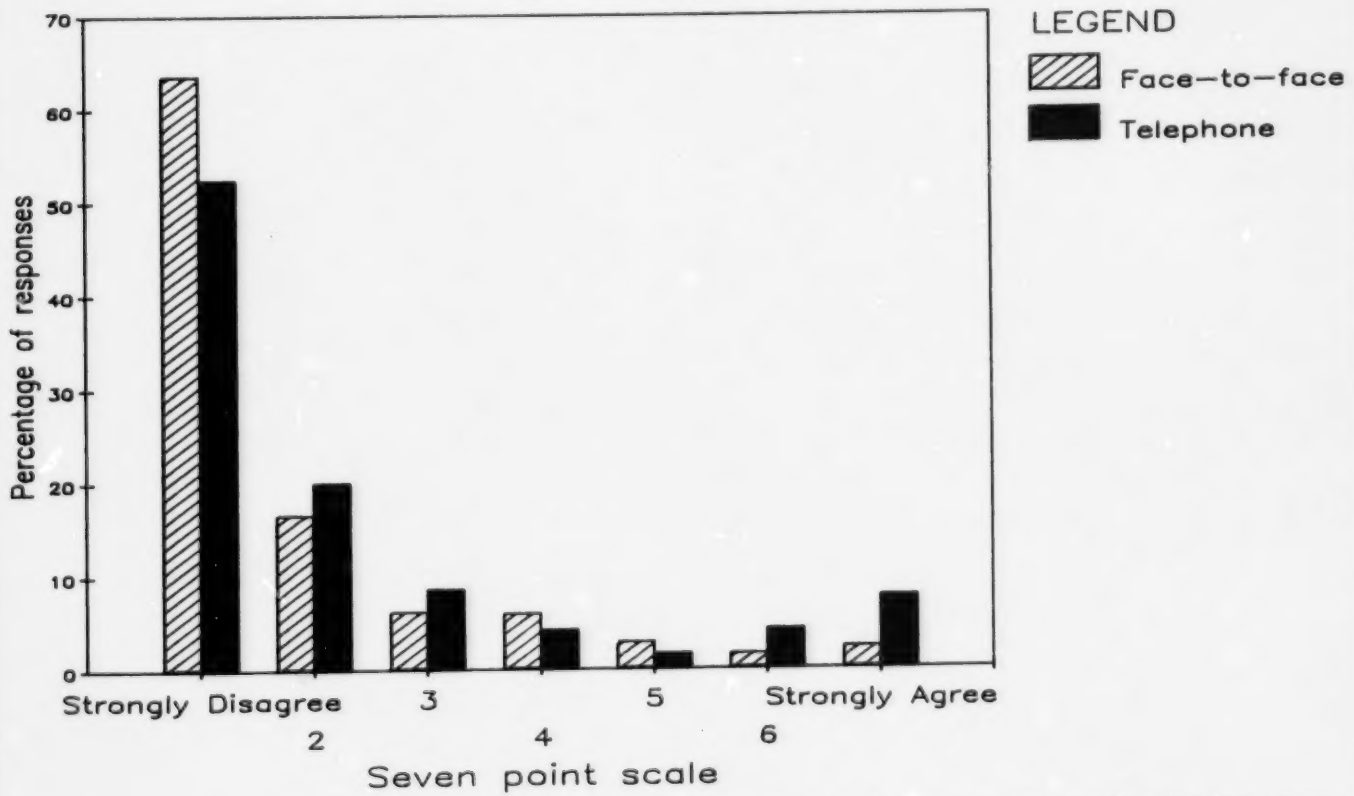
| | Question Type | | | |
|---|---|---|---|---|
| | Seven point scale (chi-sq.) | Dichotomy (chi-sq.) | Polytomous (chi-sq.) | Interval (t-test) |
| Total number of questions | 32 | 31 | 19 | 13 |
| Number of questions with no significant difference | 26 | 27 | 18 | 11 |
| Number of questions which are significant at 5 percent level | 3 | 3 | 1 | 1 |
| Number of questions which are significant at 1 percent level | 3 | 1 | 0 | 1 |

Table 3
Response to the question "punishment for impaired drivers is too severe" by mode of survey

| | | Face-to-face | Telephone |
|---|---|---|---|
| Strongly disagree | 1 | 63.7% | 52.6% |
| | 2 | 16.7 | 20.2 |
| | 3 | 6.3 | 8.8 |
| | 4 | 6.1 | 4.4 |
| | 5 | 3.0 | 1.8 |
| | 6 | 1.7 | 4.4 |
| Strongly agree | 7 | 2.4 | 7.9 |
| Sample size | | 460 | 114 |

Chart 1.

## Comparison of face—to—face and telephone interview modes: Var064*




*Impaired driver punishments are too severe.

holds true for Questions (ii) and (iv) given above (see Charts 2 and 3).

Thirty–one questions with dichotomous responses were tested by a chi–square test and four questions had significant differences between the two types of surveys. The questions with dichotomous answers which showed difference between the types of surveys are:

(i) Please tell me whether or not it should be possible for a pregnant woman to obtain a legal abortion if she wants it for any reason.

(ii) Could you tell me whether you are aware of Access radio broadcast service?

(iii) In the next two years do you or anyone else in your household plan to take a university–credit course at an Alberta college.

(iv) In the past three years (or as long as you have lived in Alberta, if less than three years) have you or any other members of your household received financial help from relatives?

Among the 19 questions with multiple categories of responses, one question had significantly different responses in the two surveys. That question was "How often do you get together with your relatives?".

The means of two variables measured at the interval level (among the 13 tested) were significantly different. These variables were the responses to the following questions:

(i) In the past 12 months, how many times did you spend seven or more consecutive days away from home?

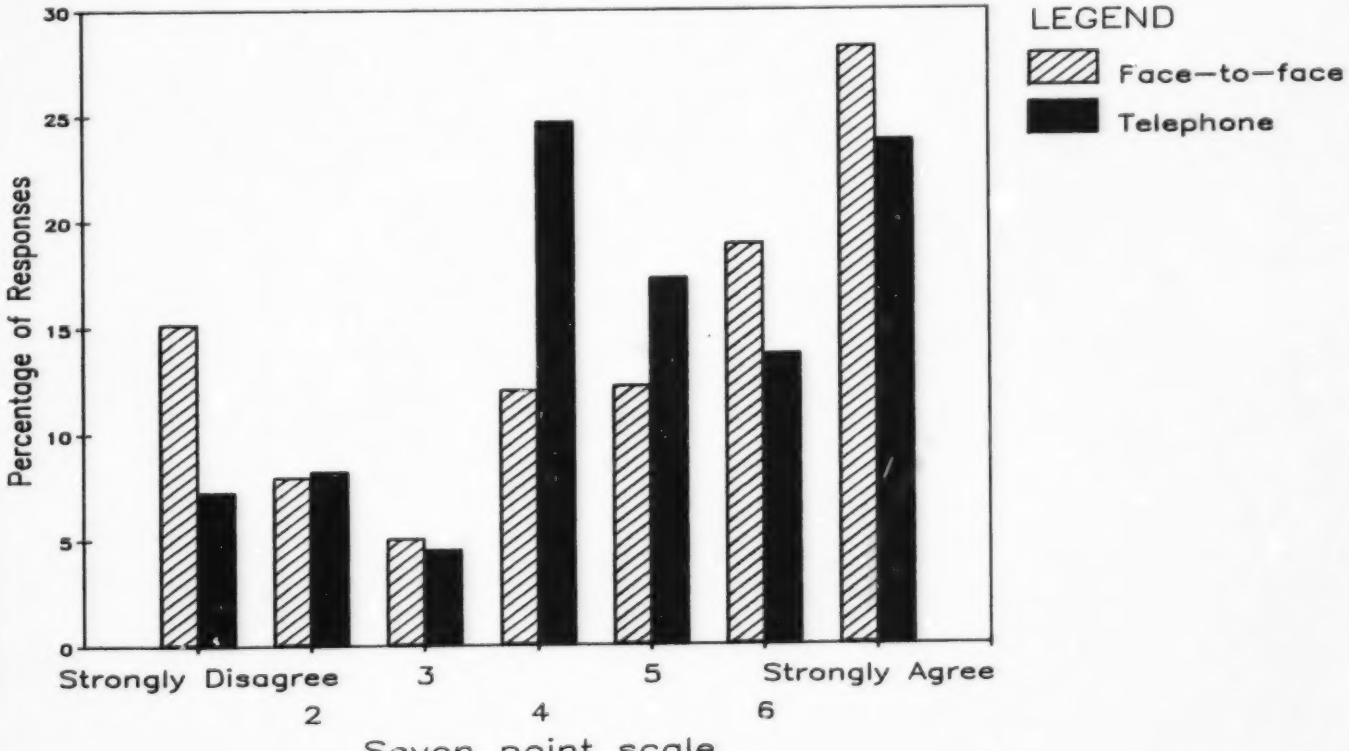
(ii) How many hours in the past week have you personally watched the American Public Broadcasting Service (PBS) KSPS from Spokane on the cable TV?

**Discussion**

In the telephone interview, 54 percent were in favor of abortion for any reason, whereas in the face–to–face survey, only 37 percent supported abortion for any reason. In this case, it is possible that the question is very sensitive and people respond differently in the two survey situations. In the face–to–face survey, 17 percent said they were aware of Access radio service, but in the telephone survey, only seven percent responded positively. This question is one among many other questions of the same kind, and so one will be hard pressed to attribute this difference to the mode of survey.

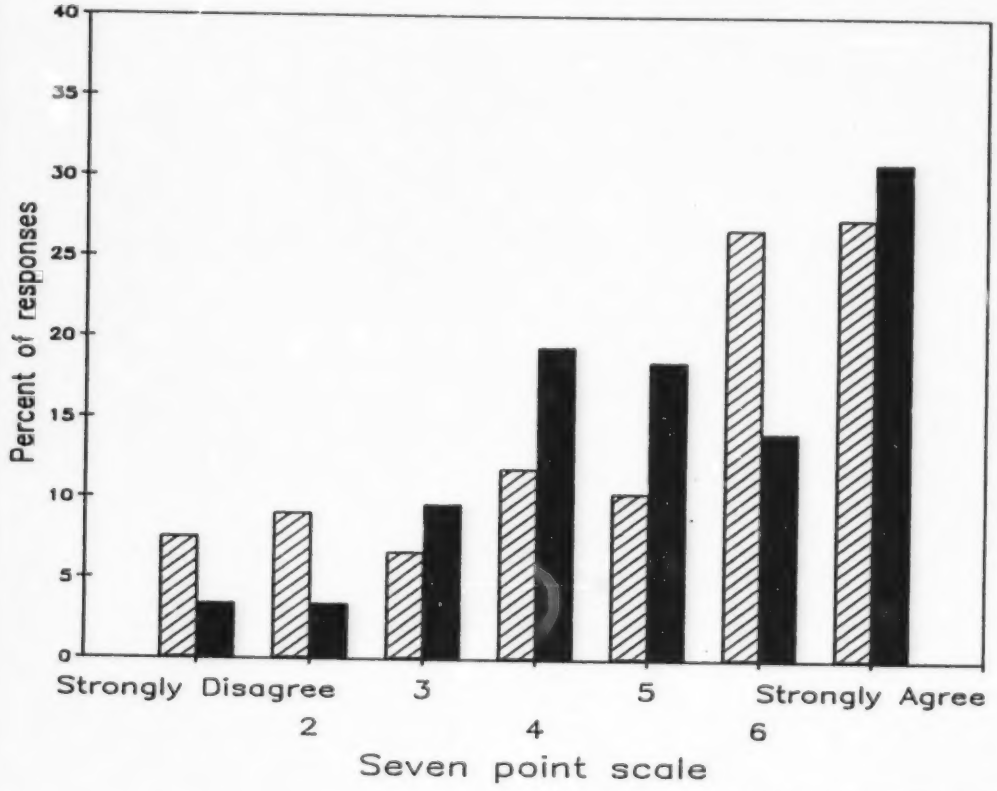
The responses to the question on discrimination based on sexual orientation showed significant differences between the two types of interviewing. In the telephone survey, more

## Chart 2.
## Comparison of face-to-face and telephone interview modes: Var228




*Discrimination based on sexual orientation should be illegal

## Chart 3.
## Comparison of face–to–face and telephone interview modes: Var273*




*It is better for child if mother is not working

persons tended to give the neutral value of 4 in the seven-point scale. The question itself was rather long, and so it is possible that some people who could not understand the question simply gave the number 4 in the middle of the scale.

Another question that came out to be statistically significant between the two surveys is a question on university entrance requirements. In the telephone survey, 21 percent disagreed with university's change in policy; but only 9 percent did so in the face-to-face interview. However, there were 14 other questions on post secondary education in the survey and none of them had any significantly different response pattern for the two types of surveys. Thus, we may be seeing a chance occurrence here.

The questions on satisfaction with life, job and standard of living showed similar responses in the two modes of interviews. The distributions of factual questions (subscribe to cable TV, own or rent the house etc.) were almost identical in both surveys.

The cooperation from respondents was rated by the interviewers in both surveys. In both, the cooperation was rated very high for more than 90 percent of the cases.

**Conclusion**

For most of the questions in this study, there is no difference between the modes of interviewing. When the questions are controversial or very long, we find some differences. In these cases, one should be careful in combining the two types interviews. Even in these questions, where there were some differences, the shape of the distributions was not radically changed. Thus, it would seem that the combination of the two interviewing methods in the annual All Alberta Study should not create problems.

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